ABSTRACT

The use of an Extended Kalman Filter (EKF) as an observer for a sensorless Induction Motor (IM) has been a longstanding issue. However, little attempt has been made to optimise the filter performance. This chapter proposes a Simulated Annealing algorithm to solve the tuning process of the EKF covariance matrices. The optimisation technique of EKF using Simulated Annealing is illustrated through simulation implementation by constant V/F control of an IM. The chapter concentrates on finding the setting of the EKF parameter and the performance is compared when using trial and error.